

WHAT IS CLAIMED IS:

1. An apparatus for turning bound pages, the apparatus comprising:

a frame;

a support assembly coupled to the frame;

at least one pickup arm coupled to the frame;

a motor assembly coupled to the frame; and

a conveyor assembly coupled to the motor assembly, the conveyor assembly further comprising:

a belt;

a plurality of fingers coupled to the belt; and

at least one actuator coupled to the belt;

wherein a subset of the plurality of fingers holds the bound pages in an open condition; and

wherein upon rotation of the belt by the motor assembly the at least one actuator causes the at least one pickup arm to lift a portion of a page and at least one of the plurality of fingers turns the lifted page while another of the plurality of fingers holds the bound pages in an open condition.

2. The apparatus for turning bound pages of claim 1 wherein the motor assembly further comprises:

a motor;

a gear reduction train coupled to the motor;

a clutch coupled to the gear reduction train; and

a sprocket coupled to the clutch, the sprocket being connectable to the belt.

3. The apparatus for turning bound pages of claim 2 wherein the motor is reversible.

4. The apparatus for turning bound pages of claim 1

further comprising at least one button electrically coupled to the motor for energizing the motor.

5 5. The apparatus for turning bound pages of claim 1 further comprising at least one of a foot pedal, a breath-controlled switch, a chin switch, a voice activation device, and a computerized timer electrically coupled to the motor for energizing the motor.

10 6. The apparatus for turning bound pages of claim 1 wherein the support assembly further comprises:

two expandable spines, each spine having a proximal end and a distal end;

15 a plurality of crossbar supports, one of the plurality of crossbar supports being mounted on each end of the spines;

a plurality of clamps, one of the plurality of clamps being mounted on each crossbar support by a spring hinge, the spring hinge providing a bias force on the bound pages.

20 7. The apparatus for turning bound pages of claim 6 wherein each spine is attached to the frame by a mounting bracket, the mounting bracket further comprising:

a frame;

25 a base having two vertical cylindrical cavities, and an angled cylindrical cavity coupleable to the proximal end of one of the spines;

a center rod having an inner rod;

a spring located coaxially around the center rod; and

30 a plurality of guiding rods located on each side of the center rod, the guiding rods being coupled to the frame and insertable in the two vertical cylindrical cavities of the base;

wherein the base is moveable along the two guiding rods to

generate a reaction bias force in the spring.

8. The apparatus for turning bound pages of claim 1 wherein the conveyor assembly further comprises:

5 two right actuators coupled to the belt; and
two left actuators coupled to the belt.

9. The apparatus for turning bound pages of claim 1 wherein each of the plurality of fingers further comprises:

10 a base;
an arm coupled to the base; and
a roller coupled to the arm.

10. The apparatus for turning bound pages of claim 1 wherein the at least one actuator further comprises:

15 a base coupled to the belt;
a frame coupled to the base;
a cam coupled to the frame; and
a switch trigger coupled to the base;

20 wherein the switch trigger on the actuator is only
rotatable in one direction.

11. The apparatus for turning bound pages of claim 1 wherein the at least one pickup arm further comprises:

25 a bracket mountable to the frame;
a shaft mounted to the bracket;
an arm coupled to the shaft, the arm having a proximal end
and a distal end, the arm being bent, curved or angled;
a roller rotatably coupled to the distal end of the arm,

30 the surface of the roller being covered with an adhesive;
a torsional spring coupled to the shaft, the torsional
spring applying a bias torque to the arm and thereby maintaining

the arm in a neutral position; and

a follower pin coupled to the shaft, the follower pin impacting the at least one actuator to rotate the arm and place the roller in contact with the page of the book;

5 wherein upon release of the follower pin by the at least one actuator, the spring provides a bias torque and lifts the arm.

12. A method for turning bound pages comprising:

10 selecting the apparatus of claim 1;
placing bound pages in the support assembly; and
energizing the motor assembly to turn at least one of the bound pages.

15 13. An apparatus for turning bound pages, the apparatus comprising:

a frame;

a book support assembly coupled to the frame;

a left pickup arm coupled to the frame;

20 a right pickup arm coupled to the frame;

a motor assembly coupled to the frame, the motor assembly having a reversible motor; and

a conveyor assembly coupled to the motor assembly, the conveyor assembly further comprising:

25 a belt;

a plurality of fingers coupled to the belt; and

two left actuators coupled to the belt;

two right actuators coupled to the belt;

30 wherein a subset of the plurality of fingers hold the bound pages in an open condition;

wherein each of the two right actuators causes the right pickup arm to lift a portion of a right page upon

counterclockwise rotation of the belt by the motor assembly;

wherein each of the two left actuators cause the left pickup arm to lift a portion of a left page upon clockwise rotation of the belt by the motor assembly;

5 wherein the plurality of fingers turn the lifted right page upon counterclockwise rotation of the belt by the motor assembly; and

wherein the plurality of fingers turn the lifted left page upon clockwise rotation of the belt by the motor assembly.

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14. An apparatus for turning bound pages, the apparatus comprising:

a frame;

a support assembly coupled to the frame;

15 a means for lifting a page, the means for lifting a page being coupled to the frame;

a motor assembly coupled to the frame; and

a conveyor assembly coupled to the motor assembly, the conveyor assembly further comprising:

20 a belt;

a plurality of fingers coupled to the belt; and

at least one actuator coupled to the belt;

wherein a subset of the plurality of fingers holds the bound pages in an open condition; and

25 wherein upon rotation of the belt by the motor assembly the at least one actuator causes the means for lifting a page to lift a portion of a page and at least one of the plurality of fingers turns the lifted page.

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